

Agilent Ref: 10010792-1
United States Application Serial No. 10/023,375

AMENDMENTS TO THE CLAIMS

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1. (Currently Amended) A pulse jet printhead comprising:
 - (a) a multiple die printhead comprising:
 - (i) ~~[[an]]~~ a single orifice plate comprising a plurality of orifices; and
 - (ii) a plurality of thermal printhead dies each comprising a top and bottom surface, wherein said top surface comprises a plurality of resistors and is bonded to a surface of said orifice plate in operational alignment with said orifices to produce at least one firing chamber; and
 - (b) a volume of an aqueous fluid that includes a biopolymer or precursor thereof in said at least one firing chamber.
2. (Original) The pulse jet printhead according to Claim 1, wherein said printhead comprises from 2 to about 10 printhead dies.
3. (Original) The pulse jet printhead according to Claim 2, wherein said printhead comprises from 2 to 5 printhead dies.
4. (Original) The pulse jet printhead according to Claim 3, wherein said printhead comprises 3 printhead dies.
5. (Previously Presented) The pulse jet printhead according to Claim 1, wherein each of said printhead dies is a thermal pulse jet printhead die.
6. (Original) The pulse jet printhead according to Claim 1, wherein said biopolymer is selected from the group consisting of polypeptides and nucleic acids.
7. (Original) The pulse jet printhead according to Claim 1, wherein said precursor thereof is selected from the group consisting of amino acids and nucleotides.

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8. **(Original)** The pulse jet printhead according to Claim 1, wherein said printhead is present in a printhead assembly that further includes at least one fluid reservoir in fluid communication with said firing chamber.
9. **(Original)** The pulse jet according to Claim 8, wherein said fluid reservoir comprises said aqueous fluid that includes a biopolymer.
10. **(Currently Amended)** A pulse jet printhead assembly comprising:
(a) a multiple die printhead comprising:
(i) ~~[[an]]~~ a single orifice plate comprising a plurality of orifices; and
(ii) a plurality of thermal printhead dies each comprising a top and bottom surface, wherein said top surface comprises a plurality of resistors and is bonded to a surface of said orifice plate in operational alignment with said orifices to produce at least one firing chamber; and
(b) at least one fluid reservoir, wherein said fluid reservoir is in fluid communication with said firing chamber.
11. **(Original)** The pulse jet printhead assembly according to Claim 10, wherein said printhead comprises from 2 to about 10 printhead dies.
12. **(Original)** The pulse jet printhead assembly according to Claim 11, wherein said printhead comprises from 2 to 5 printhead dies.
13. **(Original)** The pulse jet printhead assembly according to Claim 12, wherein said printhead comprises 3 printhead dies.
14. **(Previously Presented)** The pulse jet printhead assembly according to Claim 10, wherein said pulse jet printhead assembly is a thermal pulse jet printhead assembly.

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15. **(Original)** The pulse jet printhead assembly according to Claim 10, wherein said reservoir contains a volume of an aqueous fluid that includes a biopolymer or precursor thereof.

16. **(Original)** The pulse jet printhead assembly according to Claim 15, wherein said biopolymer is selected from the group consisting of polypeptides and nucleic acids.

17. **(Original)** The pulse jet printhead assembly according to Claim 15, wherein said precursor thereof is selected from the group consisting of amino acids and nucleotides.

Claims 18.-28. **(Canceled)**

29. **(Original)** An automated pulse jet printing system, said system comprising a pulse jet printhead according to Claim 1.

30. **(Currently Amended)** A pulse jet printhead comprising:

(a) a multiple die printhead comprising:

(i) ~~[[an]]~~ a single orifice plate comprising a plurality of orifices; and

(ii) a plurality of thermal printhead dies each comprising a top and bottom surface, wherein said top surface comprises a plurality of resistors and is bonded to a surface of said orifice plate in operational alignment with said orifices to produce at least one firing chamber; and

(b) a volume of an aqueous fluid that includes nucleic acids or nucleotides in said at least one firing chamber.

31. **(Previously Presented)** The pulse jet printhead according to Claim 30, wherein said printhead comprises from 2 to about 10 printhead dies.

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32. **(Previously Presented)** The pulse jet printhead according to Claim 31, wherein said printhead comprises from 2 to 5 printhead dies.
33. **(Previously Presented)** The pulse jet printhead according to Claim 32, wherein said printhead comprises 3 printhead dies.
34. **(Previously Presented)** The pulse jet printhead according to Claim 30, wherein each of said printhead dies comprises a plurality of resistor elements on a surface of a semiconductor substrate.
35. **(Previously Presented)** The pulse jet printhead according to Claim 30, wherein said printhead is present in a printhead assembly that further includes at least one fluid reservoir in fluid communication with said firing chamber.
36. **(Previously Presented)** The pulse jet printhead according to Claim 1, wherein said printhead dies are bonded to a single orifice plate.
37. **(Previously Presented)** The pulse jet printhead assembly according to Claim 10, wherein said printhead dies are bonded to a single orifice plate.
38. **(Previously Presented)** The pulse jet printhead according to Claim 30, wherein said printhead dies are bonded to a single orifice plate.
39. **(Previously Presented)** The pulse jet printhead according to Claim 1, wherein said multiple printhead dies bonded to said orifice plate are parallel to each other.
40. **(Previously Presented)** The pulse jet printhead assembly according to Claim 10, wherein said multiple printhead dies bonded to said orifice plate are parallel to each other.

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41. **(Previously Presented)** The pulse jet printhead according to Claim 30, wherein said multiple printhead dies bonded to said orifice plate are parallel to each other.